Daniel A. Freer 24-28 April 2005 Cape Fear, NC

Trip Objectives:/Accomplishments = (√) Not Done = (°)

- ✓ Service ADCP's, and replace UAT at locations (BH, OK)
- o Service ADCP and replace 2 UAT's at location (EL)
- ✓ Check out Oak Island real time cable
- o Replace Real time PC and get real time interface working at Oak Island shore station house (Miramar)

Summary:

Recovered old and installed fresh ADCPs and UATs at BH and OK sites.
Continuity test of OK cable indicates the cable is good (77.5 ohms round trip on all pairs)
Oak Island Gage will communicate using BB-Talk software, but not WavesMon software
BH data gap from 7 Jan 2006 to recovery on 26 April 2006 108 Days due to memory card problem.
OK data gap from 10 Feb 2006 to recovery 27 April 2006 75 Days due to batter depletion from an unknown shore power problem and an RS-422 communications problem.
Ocean was too rough to service EL gage. UATs at EL not working
Used two dive days.
Boat was Eason dive boat

Data:

OK20_, Start 9/1/05, Stop 2/10/06, 162 days, 714 megabytes, residual battery 4.56 vdc
BH20_, Start 9/1/05, Stop 1/7/06, 128 days, 230 megabytes, residual battery 39.03 vdc

Chronological Details (All times are DST)

24 April 2006
Drove POV and trailer to Southport, NC

25 April 2006
Met with Mike Newton form EHI
Went to OK real time house (Miramar)
Calibrated compasses on 3 gages
Swapped Oak Island gage PC still no communication to gage
Purchased batteries for UATs (24 Lithium) and other supplies

26 April 2006
Met Eason divers at US Coast Guard Station Oak Island
Inspected divers equipment and boat setup, conducted safety brief
Sent divers and EHI tech to Eleven Mile gage location
They tried to anchor 4 times, but seas too rough. Divers returned to dock.
Sent divers and EHI tech to Bald Head gage location **BH**.
Divers returned after successfully recovering and replacing gage and UAT.
Cleaned BH ADCP and UAT
Off loaded data from ADCP

Memory card was not completely erased so gage stop recording before end of deployment.

27 April 2006
Met divers at dock
Inspected divers equipment and boat setup, conducted safety brief
Sent divers and EHI tech to EL location
Anchored on second attempt
Diver in water, UATs not responding
Diver conducted 2 unsuccessful circle searches.
He may have been dragging the buoy weight due to rough seas.
Seas building and too rough to continue, canceled dive returned to dock
Sent EHI tech to Miramar house for cable test and communication test
Went with divers to OK location
11:09 Anchored at **OK** location
Tested cable. Reads good on all conductors (77.5 ohms)
New gage will communicate with shore on BB talk software
New gage will not communicate with shore on WavesMon software
Old gage won't communicate batteries are dead. WHY? If the cable is good why are the batteries being depleted? I checked that +50 vdc was present between wires 4 and 7 on the cable coming from shore.
11:56 New gage in water, but not collecting
12:18 left OK
Cleaned recovered OK gage and UAT and off loaded data
Went to Miramar house to troubleshoot software
RDI doesn't have an answer as to why the gage doesn't communicate with the Waves Mon program, but will communicate with the BB talk program.
Put gage in 3 hour self record mode
Left old PC in place so we can still interface to the gage
At hotel I setup a PC short test cable and BH recovered ADCP.
Tested RS-422 interface, WavesMon program works fine.
Back at the Miramar house I hooked up the O'scope to the RS-422 lines to and from the ADCP. The Waves Mon program sends a Break command to the ADCP. The ADCP responds to the Break command (I see the response on the O'scope), but the program still doesn't acknowledge the ADCP. I suspect this is a cable length timing issue with the latest version of WavesMon 2.02. I will test with a long cable when I get back to the pier.

28 April 06
Drove POV and trailer back to FRF

New OK Buoy 33 deg 53.6408 min N, 78 deg 05.1036min W

Suspense items:
Replace Compact Cabinet Cooler at OK shore station
PN CC250F-115, sn 11379, mfg. Noren, Menlo Park, CA ph. 650-322-9500

Test long cable WaveMon communication problem to see if I can duplicate problem at pier

Test shore power problem via long cable at pier